

Appl. No. : 10/001322  
Filed : October 31, 2001

§103(a) as being obvious in view of U.S. Patent Nos. 6,277,842 and 5,980,905. Reconsideration and withdrawal of the present rejections in view of the comments presented herein are respectfully requested.

**Regarding the Restriction Requirement**

Claims 1-26 were pending prior to this amendment. The PTO has made a three-way restriction requirement between the invention of Group I, Claims 1-9 drawn to a composition consisting essentially of alpha-lipoic acid and a chromium complex; Group II, Claims 10-13, drawn to a composition consisting essentially of a chromium complex, an alpha lipoic acid, a cyclooxygenase inhibitor, a mucolytic, and a salicin-containing herb; and Group III, Claims 14-26, drawn to a method for improving insulin sensitivity in a subject in need thereof comprising administration of a composition consisting essentially of a chromium complex and alpha-lipoic acid.

Applicants elect, without traverse, to prosecute the claims of Group I, Claims 1-9. Applicants cancel Claims 10-26 without prejudice to further prosecution.

**Claims 1-2 and 7-8 are not anticipated**

Claims 1-2 and 7-8 were rejected under 35 U.S.C. §102(e) as being anticipated by Carthron (U.S. Patent No. 6,277,842) ('842). Under 35 U.S.C. §102(e), a claim is anticipated only if the reference reads on the claim. M.P.E.P. §2131. Each element as set forth in the amended claims is not found in '842. Accordingly, Applicant respectfully submits that Claims 1-2 and 7-8 are not anticipated by '842 and request withdrawal of the PTO's rejection under 35 U.S.C. §102(e).

Review of '842 reveals that it discloses a method for promoting fat and weight loss by administering a multi-component formulation including L-carnitine, chromium, coenzyme Q10, creatine, lipoic acid, niacin, pyruvate, riboflavin, and thiamine. The claims of the present application, by contrast, recite a composition consisting essentially of at least one chromium complex and a pharmaceutically effective amount of alpha-lipoic acid.

The meaning of the transitional phrase "consisting essentially of" is well established both in the M.P.E.P. and in the case law. See, e.g. M.P.E.P. §2111.03. The Federal Circuit has held that the transitional phrase "consisting essentially of" limits the scope of a claim by excluding additional materials or steps that materially affect the basic and novel characteristics of the invention. See Atlas Pander Co. v. E.I. duPont de Nemours & Co., 750 F.2d 1569, 224 USPQ

408 (Fed Cir. 1998). The claims of the present invention recite a composition consisting essentially of specific ingredients, namely a chromium complex and alpha-lipoic acid; therefore, the present claims should be read to exclude other components that materially affect the basic and novel characteristics of the invention. In addition to chromium and lipoic acid, '842 recites additional bioactive components that materially affect the promotion of fat and weight loss while decreasing food cravings. Notably, these components are absent from the present claims. These additional components, on the face of the reference, substantially influence the pharmacological effect of the composition. For example, at column 2, lines 26-32 of '842, the specification details that L-carnitine accelerates the loss of body fat without sacrificing lean body mass. At column 2, lines 63-64 of '842, the role of pyruvate in decreasing the appetite in lab animals is described. Because the present claims are limited to compositions consisting essentially of a chromium complex and alpha-lipoic acid, and because '842 teaches compositions comprising additional components that influence the pharmacological effect of the compositions, '842 fails to teach every limitation of the claims. Thus, '842 does not anticipate Claims 1-2 and 7-8.

**Claims 1-9 are not obvious**

The PTO also rejected Claims 1-4 and 6-9 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,277,842 ('842). Additionally, Claims 1-9 were rejected under 35 U.S.C. §103(a) as being unpatentable over '842 in combination with U.S. Patent No. 5,980,905 ('905). As discussed above, '842 teaches multi-component compositions comprising L-carnitine, coenzyme Q10, creatine, niacin, pyruvate, riboflavin, and thiamine in addition to chromium and lipoic acid. '842 discloses that compositions intended for oral use can be prepared according to any method known in the art for the manufacture of pharmaceutically acceptable compositions. Thus, according to the PTO, while '842 does not specifically recite enteric coated formulations or formulations comprising nicotinic acid or picolinic acid as chelating agents, it would have been obvious to one of ordinary skill in the art to add the active ingredients into a formulation in order to have created a supplement for ease of administration and delivery. '905 describes a composition for lowering blood glucose level and increasing lean body mass comprising chromium complexes and chelating agents coated onto microbeads made of sugar or microcrystalline cellulose. The PTO opines that one of ordinary skill in the art would have been motivated to have coated the composition described in '842 onto a beadlet as disclosed by '905 to arrive at the claimed invention. Applicants respectfully disagree.

In order to articulate a *prima facie* case for obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claim limitations. See M.P.E.P. § 2143. Applicant submits that the contrasts between the present invention and '842 and '905 are significant and the references are not sufficient to support a *prima facie* case of obviousness.

**There is no motivation to modify the references**

The PTO has pointed to no motivation to modify the '842 and '905 patents to arrive at the claimed compositions. The '842 patent is directed to multi-component diet aid formulations for promoting weight and fat loss. Specifically, the formulations described in '842 include almost ten ingredients. Similarly, '905 discloses compositions for lowering blood glucose levels, increasing lean body mass and lowering blood serum lipid levels, which include chromium polynicotinate in combination with a cyclooxygenase inhibitor, an acid, a mucolytic, and/or a salicin-containing herb. The PTO opines that it would have been obvious to select chromium and alpha-lipoic acid from the many possible combinations of ingredients disclosed in '842 and combine it with a cyclooxygenase inhibitor, an acid, a mucolytic or a salicin-containing herb as disclosed in '905 to create the claimed composition.

The mere fact that the teachings of '842 and '905 might be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See In re Mills, 16 U.S.P.Q.2d 1430 (Fed Cir. 1990); See, also M.P.E.P. §2143.01. The present invention is based on the surprising discovery of a synergistic interaction between chromium complexes and alpha-lipoic acid in improving insulin sensitivity, reducing hyperglycemia, and reducing hypercholesterolemia. Both '842 and '905 are silent with respect to the advantages of selecting only two of the at least nine components disclosed in '842 and optionally combining them with a cyclooxygenase inhibitor, an acid, a mucolytic, or a salicin containing herb to improve insulin sensitivity, reduce hyperglycemia, and reduce hypercholesterolemia. There is absolutely no teaching or indication in either reference to remove the at least seven other possible bioactive components from a pharmaceutical composition to combine a chromium complex, alpha-lipoic acid, and a cyclooxygenase inhibitor, acid, mucolytic, or salicin containing herb and arrive at the composition of the present invention.

While it is easy, in hindsight, to find the two essential ingredients in a list of prior art ingredients, the mathematics of the present situation clearly show that the PTO has not made out a *prima facie* case of obviousness. The number of unique combinations of 2 of the '842 ingredients is 9 things taken 2 at a time. The number of such combinations is calculated as  $8+7+6+5+4+3+2+1$ , for a total of 36 combinations. Nowhere has the PTO shown any teaching or suggestion in the prior art as to which of the 36 combinations to choose. Additionally, since there is no teaching or suggestion to choose only two, the universe of subcombinations includes combinations of 3 ingredients (84 possibilities); 4 ingredients (128 possibilities), and so forth. Thus, if the PTO finds a general motivation to create a subcombination on the off chance that it will have a desired activity, there are literally hundreds of possible formulations to deal with. Nowhere has the PTO shown any teaching or suggestion to select the particular subcombination of the present claims, nor has it shown any way to assess which of the hundreds of subcombinations would reasonably be expected to be successful. For all of these reasons, the PTO fails to show a case of *prima facie* obviousness.

As stated above, Claims 1-9 are directed to compositions consisting essentially of *inter alia* a chromium complex and alpha-lipoic acid. In In re Fine, the Federal Circuit made clear that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Instead, there must be some reason, suggestion, or motivation found in the cited references whereby a person of ordinary skill in the art would make the combination and that knowledge cannot come from the applicant's disclosed invention. See In re Oetiker, 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992). Absent impermissible hindsight, it would not have been obvious to strip away the multitude of efficacious bioactive components disclosed in '842, select from among the hundreds of possible subcombinations solely a chromium complex and alpha-lipoic acid, and arrive at a composition consisting essentially of chromium and alpha-lipoic acid. Accordingly, Claims 1-9 are not obvious in view of '842 and '905.

**No reasonable expectation of success in modifying or combining the cited references**

Furthermore, a *prima facie* case for obviousness is established only when the PTO provides references that would lead one of ordinary skill in the art to believe that he or she would have a reasonable expectation of success in practicing the claimed invention in view of the cited art. See In re Merck & Co., Inc., 231 U.S.P.Q. 375 (Fed. Cir. 1986); M.P.E.P. §2143.02.

Applicants respectfully submit that it is not reasonable to expect that two ingredients selected from the hundreds of possible subcombinations of active ingredients, when combined together with or without a cyclooxygenase inhibitor, an acid, a mucolytic, or salicin containing herb as disclosed in '905, would act complementarily to improve insulin sensitivity, reduce hyperglycemia, and reduce hypercholesterolemia as claimed in the present invention.

Applicants further submit that there is no reason to believe that the teachings of '842 combined with '905 describe a composition consisting essentially of a chromium complex and alpha-lipoic acid as claimed in Claims 1-9 of the present invention. Due to the unpredictable synergistic result of the combination of chromium and alpha-lipoic acid as claimed in the present invention, it would not have been obvious to one of skill in the art to derive a composition consisting essentially of chromium and alpha-lipoic acid from the dietary preparations of the references cited herein. For these reasons, Claims 1-9 are non-obvious in view of '842 and '905.

**The references do not teach or suggest all of the claim limitations**

Finally, in order to establish a case for obviousness, the PTO must cite prior art that teaches or suggests all the claim limitations. See M.P.E.P. § 2143.03. For the same reasons set forth in the response to the § 102 rejections, the prior art references fail to teach or suggest all of the claim limitations. As outlined above, Claims 1-9 relate to a composition for improving insulin sensitivity, reducing hyperglycemia, and reducing hypercholesterolemia consisting essentially of a chromium complex and alpha-lipoic acid. As noted above, the "consisting essentially of" transitional phrase limits the scope of a claim to the specified materials or steps and excludes materials or steps that materially affect the basic and novel characteristics of the invention. Because the '842 and '905 references recite compositions comprising far more than a chromium complex and alpha-lipoic acid, they do not read on the pending claims. These references therefore do not teach each and every limitation of Claims 1-9 and thus fail to establish *prima facie* obviousness.

In view of the deficiencies discussed above, '842 and '905 are not sufficient to support a *prima facie* case of obviousness. Therefore, Applicant requests withdrawal of this rejection.

**CONCLUSION**

In view of the foregoing remarks, Applicant respectfully submits that the present application is in condition for allowance. Nevertheless, the PTO is invited to contact the undersigned at the telephone number appearing below to discuss any remaining issues.

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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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